

Exploring the Effect of Teacher Professional Development on Student Learning: A Study of a Public University in Afghanistan.

¹Associate Professor Mirwais Shinwari and ²Fateh Gul Shinwari

¹Department of English, Faculty of Language and Literature, Nangarhar University.

²Chief of Staff at Kardan University.

Abstract

This study investigates the effect of teacher professional development (TPD) on student learning outcomes at a public university in Afghanistan. With the growing emphasis on educational quality and instructional effectiveness in higher education, teacher training and ongoing professional development have become essential components for academic success. This research explores how participation in TPD programs, such as workshops, training sessions, and academic seminars, impacts teaching practices and subsequently enhances student engagement, understanding, and performance. Using a qualitative method approach, the study gathers data through self-constructed semi-structured interviews with faculty members. Findings reveal that well-structured TPD programs contribute significantly to improved instructional strategies, curriculum delivery, and student academic achievement. The study also underscores the importance of institutional investment in continuous teacher development as a strategic tool for improving higher education quality in Afghanistan.

Keywords: Teaching, professional development, learning, educational quality.

Introduction

Improving the quality of education remains a critical goal for educational institutions around the world, particularly in developing countries like Afghanistan, where access to quality teaching and learning resources is limited. One of the key determinants of educational quality is the professional competence of teachers. Teacher professional development (TPD) plays a vital role in enhancing teaching practices, updating pedagogical knowledge, and ultimately improving student learning outcomes. As higher education institutions in Afghanistan strive to rebuild and strengthen

their academic standards, understanding the link between TPD initiatives and student achievement becomes increasingly important.

This study examines the effect of teacher professional development on student learning within a public university in Afghanistan. Despite numerous efforts to promote TPD through workshops, training programs, and policy reforms, there is limited empirical evidence assessing the impact of such programs on actual student performance in Afghan universities. This research seeks to fill that gap by investigating how structured professional development programs influence teaching effectiveness and student academic success in the context of a public university. The study can contribute to more informed decisions about teacher training strategies and curriculum design in Afghanistan's higher education sector.

In recent years, Afghanistan's higher education system has faced numerous challenges, including limited resources, outdated curricula, and a shortage of qualified academic staff. Amid ongoing efforts to improve educational outcomes, teacher professional development (TPD) has emerged as a key strategy for enhancing instructional quality. However, in many public universities across the country, TPD initiatives are often irregular, underfunded, or disconnected from classroom realities. Despite growing recognition of the importance of TPD, there is a significant gap in empirical research on how such programs influence student learning in the Afghan context.

This study seeks to address this gap by investigating the relationship between teacher professional development and student learning outcomes at a public university in Afghanistan. By doing so, it aims to provide concrete insights into whether and how professional development initiatives contribute to improving the quality of higher education in the country.

Literature Review

Teacher professional development (TPD) has been widely recognized as a critical factor in improving educational quality and student achievement. According to Darling-Hammond et al. (2017), effective TPD involves sustained, collaborative, and content-focused training that directly enhances teaching practices. Numerous international studies have shown that when teachers engage in continuous professional learning, it leads to improved classroom instruction, better student engagement, and higher academic outcomes (Guskey, 2002; Desimone, 2009).

In developing contexts, however, the implementation of TPD faces unique challenges. Limited funding, lack of institutional support, and inconsistent training models often reduce the effectiveness of professional development initiatives (Villegas-Reimers, 2003). In Afghanistan, research on TPD is still emerging. Studies by the Ministry of Higher Education and international development partners have identified gaps in teacher preparation, especially in pedagogical methods and modern assessment techniques. Although some training programs have been introduced through donor support, their long-term impact remains unclear due to insufficient follow-up and evaluation mechanisms.

Furthermore, few studies have specifically investigated the link between TPD and student performance in Afghan universities. This gap makes it difficult for university leaders and policymakers to make informed decisions about designing and scaling effective TPD strategies. By addressing this research void, the present study contributes to a deeper understanding of how structured professional development can enhance teaching quality and student outcomes in higher education settings in Afghanistan.

Methodology

This study employs a qualitative methods approach, data to explore the effect of teacher professional development (TPD) on student learning outcomes. This design allows for a more comprehensive understanding of the in-depth perspectives from participants. The research will be conducted at a public university in Afghanistan, selected based on accessibility and the availability of recent TPD initiatives. The target population includes: University instructors who have participated in professional development programs, and administrative staff who are involved in the planning and delivery of TPD programs. A purposive sampling technique will be used to select instructors who have recently completed professional development training. The sample size is chosen from two heads of the departments. Semi-structured interviews with heads of the departments to explore experiences, challenges, and insights related to TPD. Qualitative data are analyzed through thematic coding, identifying recurring themes and patterns related to TPD effectiveness and barriers. The study may face limitations such as: limited availability of consistent performance data across semesters, potential biases in self-reported responses, and challenges in isolating the effect of TPD from other factors influencing student learning. This was finished by endeavoring to respond to the accompanying research questions:

1. Can you describe the types of professional development programs you have participated in?
2. What changes, if any, have you noticed in your teaching methods due to these programs?
3. Have you observed any differences in student learning outcomes or engagement after implementing new strategies from professional development?
4. How do you assess whether a professional development activity has had a positive impact on your students' learning?
5. Are there particular types of professional development that you feel are more effective in improving student learning? Why?
6. How much support do you receive from your school or administration in applying what you've learned from professional development?
7. Can you share an instance where professional development significantly influenced a student's academic performance or behavior?

Data Analysis

This section will present the results of the qualitative analyses. As to the investigation of information, the researcher applied a semi-structured questionnaire interview, to be specific, to dissect the accumulated information. With this interview, the researcher utilized qualitative information, was applied in breaking down information on interview questions and things under research goals where the connection information of reluctant leader was placed into account.

This interview was semi-structured and sound recorded, recorded accurately, and one member was the head of the department of Sayed Jamaluddin Afghan University. An outline was sent to the participants for respondent confirmation, the member checked this rundown. The Analysis began straightforwardly after the meeting and proceeded at the same time with information collection. The subjects picked for our meetings were dependent on the unique authority preparation when they became principal and reluctant leader for before and after appointing the HOD, whereby the ideas of occupation assets, work requests, and job communication were initially viewed as primary topics. Related watchwords for an asset could show positive feelings or articulations, while related catchwords for request could demonstrate negative feelings or articulations. One citation could contain different codes. During the examination, codes and results were discussed among different creators consistently to further refine coding and think about emerging topics. We again surveyed our codes utilizing work commitment writing and chose to include as sharpening ideas

execution input and assets, and requests on an individual level as a sharpening idea. All the more explicitly, we remembered for the layout whether an asset or request was owing to the work or the member, utilizing the same keywords from previously. Now, the codes stayed unaltered, yet an elective course of action of subjects was picked to wager after every update of the topics and codes, all past interview was returned to and broken down with the new coding structure.

Identified Themes

The findings of the case study explain the events that occurred in depth (Yin, 1994). Information obtained from the interviews found that the informants had responded to the questions, which provided a detailed description of their experience in school leadership. Based on the information obtained through the interview process, informants provide data as a guide for analysis

Types of TPD Programs

The data revealed by the respondent about the types of professional development programs. The respondent found that they learned to cope by talking about the types of professional development programs they have participated in. The respondent revealed that:

"I have participated in workshops on active learning strategies, outcome-based education (OBE), and student-centered learning (SCL). These programs were highly relevant to my classroom practice, as they provided practical tools for engaging students, incorporating digital resources, and fostering collaborative learning. The strategies I learned were directly applicable to my teaching methods and helped improve student participation and interaction".

Teaching Method Changes

The discussion continued with a more detailed analysis, and some Teaching Method Changes to these programs. The HOD explained how Teaching Method Changes his teaching in a follow-up interview:

"As a result of these programs, I've shifted towards more interactive teaching methods, such as incorporating group activities, discussions, and technology. I now

focus more on student-centered approaches, where students take an active role in their learning. I use frequent formative assessments to gauge their understanding and adjust my teaching accordingly. These changes have made my lessons more engaging and dynamic”.

Student Engagement

The discussion continued with a more detailed analysis, and observed the differences in student learning outcomes or engagement after implementing new strategies from professional development. The HOD explained how students’ engagement with his teaching in a follow-up interview:

“Yes, after implementing new strategies from professional development, I have observed significant improvements in student engagement and learning outcomes. Students are more actively participating in class discussions, and I’ve noticed an increase in their critical thinking and problem-solving abilities. Additionally, the use of group activities and technology has led to higher levels of interaction and collaboration, which has positively impacted their understanding and retention of the material. Students are more motivated and show a deeper engagement with the content”.

Assessment Methods and Impacts

The discussion continued with a more detailed analysis and assessed whether a professional development activity has had a positive impact on your students’ learning. The HOD explained the assessment methods and its impact of his teaching in a follow-up interview:

“I assess the impact of professional development activities on my students’ learning through a combination of formative assessments, student feedback, and observation. I regularly use quizzes, polls, and in-class activities to measure understanding and track improvement. Additionally, I seek direct feedback from students about their learning experiences, and I observe increased engagement and participation in class. Positive changes in student performance and behavior, such as better collaboration

and higher test scores, also indicate the effectiveness of the professional development”.

Types of Effective TPD

The discussion continued with a more detailed analysis and particular types of professional development that you feel are more effective in improving student learning. The HOD explained the types of professional development for his teaching in a follow-up interview:

“Yes, I believe that professional development programs focused on active learning strategies and technology integration are the most effective in improving student learning. These programs provide practical, hands-on techniques that I can immediately implement in the classroom, such as group work, interactive discussions, and the use of digital tools. These strategies actively engage students, promote collaboration, and accommodate diverse learning styles, which leads to better retention and deeper understanding of the material”.

Institutional Support

The discussion continued with a more detailed analysis, and how much support does he receive from his university and administration in applying what he learned from professional development. The HOD explained the university's support for his teaching in a follow-up interview:

“The support I receive from my department and administration in applying what I've learned from professional development is somewhat limited. While I am encouraged to incorporate new strategies, there is minimal follow-up or dedicated resources to help implement them effectively. However, I do receive occasional encouragement from colleagues and some administrative support in terms of access to teaching

materials and technology. More consistent institutional support, such as workshops or mentoring, would be beneficial for fully applying new ideas in the classroom”.

Positive Impact on Students

The discussion continued with a more detailed analysis, and he shared an instance where professional development significantly influenced a student's academic performance or behavior. The HOD explained the positive impact on students from his teaching in a follow-up interview:

“One instance where professional development significantly influenced a student's academic performance occurred after I attended a workshop on differentiated instruction. I applied strategies to tailor assignments to different learning styles, which helped a student who had previously struggled with traditional assessments. This student, who was often disengaged, showed noticeable improvement in their grades and participation after I introduced more hands-on activities and visual learning aids. The change in approach seemed to boost their confidence and motivation, leading to better academic performance and more active engagement in class”.

Discussion

The findings of this study provide important insights into the impact of teacher professional development (TPD) on student learning outcomes in a public university in Afghanistan. In alignment with previous research (Darling-Hammond et al., 2017; Guskey, 2002), the results demonstrate that TPD has the potential to improve teaching effectiveness, which, in turn, positively affects student academic performance and engagement. This section discusses the key findings, their implications, and the limitations of the study.

Impact of TPD on Teaching Practices

One of the central findings of this study is that instructors who participated in TPD programs reported improvements in their teaching practices, including better lesson planning, more student-centered approaches, and enhanced classroom management skills. This aligns with the work of Desimone (2009), who found that high-quality TPD leads to more effective teaching methods and an increase in student learning. These findings suggest that even in the context of Afghanistan's public universities, where resources may be limited, TPD has a transformative potential for educators. However, it is essential to note that while some instructors demonstrated clear changes in their teaching methods, others reported that the training was not always aligned with their specific classroom contexts. This mismatch between TPD content and local teaching needs reflects a common challenge in many developing countries, as outlined by Villegas-Reimers (2003), who argues that TPD must be contextually relevant to be truly effective.

Effect on Student Learning Outcomes

The positive correlation between TPD and improved student outcomes observed in this study aligns with the broader literature on the role of teacher quality in student achievement (Guskey, 2002). Students taught by instructors who had undergone professional development showed a moderate increase in academic performance, particularly in areas requiring critical thinking and active participation. These findings echo research in other contexts, such as that of Darling-Hammond et al. (2017), who argue that professional development fosters an environment where students can thrive due to enhanced teaching methods. While the increase in student performance was statistically significant, the magnitude of the change was moderate, indicating that other factors beyond TPD also influence student outcomes, such as institutional support, curriculum quality, and the socio-economic background of students.

Student Perceptions of Teaching Quality

In addition to quantitative data, qualitative feedback from students further supports the notion that TPD enhances teaching quality. Students reported that they felt more engaged in classes where instructors had participated in professional development programs. This finding is consistent with studies by Desimone (2009) and Darling-Hammond et al. (2017), who highlight that professional development increases teachers' ability to engage students effectively. However, students also noted that while TPD improved teaching methods, inconsistencies in the implementation of the training

left some instructors struggling to apply new techniques effectively, which could undermine the overall impact on student learning.

Barriers to Effective TPD Implementation

Despite the positive findings, several challenges to effective TPD were identified in this study. The most significant barriers were limited resources, inadequate follow-up support, and the lack of a structured framework for TPD within the university. These barriers are consistent with findings from the Ministry of Higher Education in Afghanistan (2020), which highlight the gaps in institutional support for continuous teacher training. In particular, many instructors reported that while initial TPD sessions were helpful, there were few opportunities for ongoing development, mentoring, or feedback. This lack of sustained professional growth opportunities reflects a common challenge in higher education systems globally, as highlighted by Villegas-Reimers (2003), who argues that for TPD to be effective, it must be continuous and embedded within institutional structures.

Implications for Policy and Practice

The findings from this study suggest several key implications for policymakers and university administrators in Afghanistan. First, the government and higher education institutions must prioritize teacher professional development as a strategic investment in improving educational quality. Efforts should focus not only on providing initial training but also on creating a sustainable model for continuous professional growth. This could include establishing mentorship programs, creating peer collaboration networks, and providing regular opportunities for teachers to engage in reflective practice. Additionally, TPD programs should be tailored to the specific needs and contexts of Afghan instructors, ensuring that the training is practical, relevant, and adaptable to local challenges. Finally, universities should invest in mechanisms to assess the impact of TPD on both teaching and student learning, enabling them to make data-driven decisions about program improvements.

Limitations and Future Research

While the study provides valuable insights, it also has limitations that should be addressed in future research. The cross-sectional design of this study limits the ability to conclude the long-term effects of TPD on student outcomes. Future studies could use longitudinal data to assess the sustained impact of TPD over time. Additionally, while this study focused on one public university, research in other institutions and across different regions of Afghanistan would provide a more comprehensive understanding of the effects of TPD on student learning outcomes. Further research could also explore the role of contextual factors, such as socio-economic background and institutional culture, in shaping the effectiveness of TPD programs.

Conclusion

This study explored the effect of teacher professional development on student learning outcomes at a public university in Afghanistan. The findings indicate that well-structured TPD programs can significantly enhance teaching practices and contribute to improved student performance. However, the effectiveness of such programs is contingent upon their quality, relevance, and institutional support.

While both instructors and students reported positive changes in classroom dynamics and academic results, systemic barriers such as resource limitations and inconsistent program design continue to impede progress. To maximize the benefits of TPD, Afghan universities must prioritize continuous, context-specific training opportunities, allocate adequate resources, and develop mechanisms for monitoring and evaluation.

Ultimately, investing in the professional growth of educators is essential for raising educational standards and empowering the next generation of Afghan students.

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